



**Woolsey Operating Company, LLC**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

**Well Name:** Miller C-4  
**Location:** Section 10 - Township 35 South - Range 12 West  
**License Number:** 15-007-24065-00-00 **Region:** Barber County, KS  
**Spud Date:** September 4, 2013 **Drilling Completed:**  
**Surface Coordinates:** 1650' FNL & 2265' FWL.  
Approx. W 1/2 NE SE NW  
**Bottom Hole Coordinates:**

**Ground Elevation (ft):** 1415' **K.B. Elevation (ft):** 1415'  
**Logged Interval (ft):** 4300' **To:** 5450' **Total Depth (ft):** 5450'  
**Formation:** Kansas City ----> Simpson Group  
**Type of Drilling Fluid:** Chemical Mud

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

**Company:** Woolsey Operating Company, LLC  
**Address:** 125 N. Market, Suite 1000  
Wichita, KS 67202

**GEOLOGIST**

**Name:** Bill Klaver  
**Company:** Woolsey Operating Co. LLC  
**Address:** 125 N. Market, Wichita Kansas, 67202

## COMMENTS

Surface Casing: Ran 5 joints of new 13 3/8" X 48#/ft casing to 224' KB (tally 209') with 230 sx Class A, 2% gel, 3% cc. Plud down at 4:30 am on September 5, 2013. Cement did circulate.

Production Casing:

Deviation Surveys: 1/4 at 226', 1/2 at 1029', 3/4 at 2238', 1 at 3212', 3/4 at 3722', 1 1/4 at 4269', 1 at 4757', 1/2 at 4908,

Pipe Strap @ 4908', Board:4915.37', Strap: 4914.69', strap .68' long, No corrections were made to the board.

Ninnescah Drilling Rig 101 Bit Record:

- 1) 17 1/2" Smith Tool Compay RR in at 0' out at 226'. 3.5 hours.
- 2) 7 7/8" Varel HE-21 in at 226' out at 4908', 101 1/2 hours.
- 3) 7 7/8" Varel HE-29 in at 4908', out at 5450', 39 1/2 hours

Gas Detector: Woolsey Operating Company, Gas Trailer #2

Mud System: Mud-Co. Brad Bortz, Terry Ibson, Engineers.

DSTs: Trilobite Testing Co, Ryan Reynolds, Tester

E-Logs: Nabors Completion & Production Services, Dual Induction Laterolog w/SP, CNL-FDC w/PE, Gamma Ray and Caliper.

## New Comments

Bit began to torque and lock up in the lower section of the Simpson Sand, decision was made to call TD and loggers were called.

## DSTs

DST #1 (Mississippian) 4762'-4908', 30"-60"-60"-120", Strong blow BOB 1 minute into IFP. Recovered: 4646' GIP, 70' SOCM (7% Oil, 93% Mud), IHP 2366, IFP 27-33, ISIP 980, FFP 50-41, FSIP 1089, FHP 2316. BHT 126 degrees.

## CREWS

Rick Barriger, Tool Pusher

Jason Barriger, Daylights

Juan Navarro, Evening

Ronaldo Guerrero, Morning

Oscar Orona, Relief



One foot drill time was recored from 4400' to RTD. 10' samples were gathered from 4600' to RTD. All were delivered to the Kansas Geological Survey.

7 am Progress:

- September 4, 2013 MIRT/SPUD
- September 5, 2013 WOC
- September 6, 2013 Drilling at 1417'
- September 7, 2013 Drilling at 2270'
- September 8, 2013 Drilling at 3120'
- September 9, 2013 Drilling at 3920'
- September 10, 2013 Drilling at 4624'
- September 11, 2013 DST 1 at 4908'
- September 12, 2013 Drilling at 5059'
- September 13, 2013 Drilling at 5360'
- September 14, 2013
- September 15, 2013

Elog Tops:

- Herington
- Onaga
- Wabaunsee
- LeCompton
- Kanwaka
- Elgin Sand
- Heebner
- Toronto
- Douglas Shale
- Haskell
- Stalnaker Sand
- Quindaro Shale
- Kansas City 'E'
- Iola
- Dennis
- Stark
- Swope
- Hushpuckney
- Hertha
- B/Kansas City
- Pawnee
- Cherokee Group
- Mississippi
- C3
- C2A
- C2
- C1
- Osage
- Northview Shale
- Compton
- Kinderhook
- Woodford
- Misener
- Viola
- Simpson Group
- Simpson 'F' Dolo
- Wilcox
- McLish Shale

4100

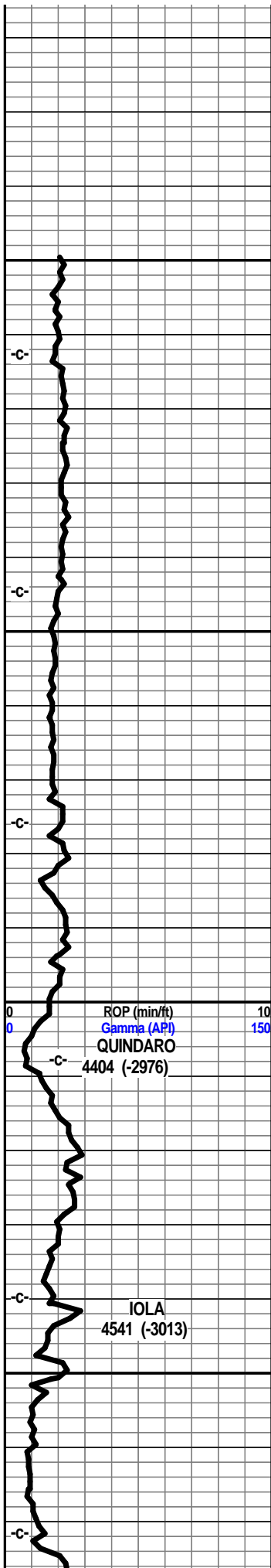
4150

4200

4250

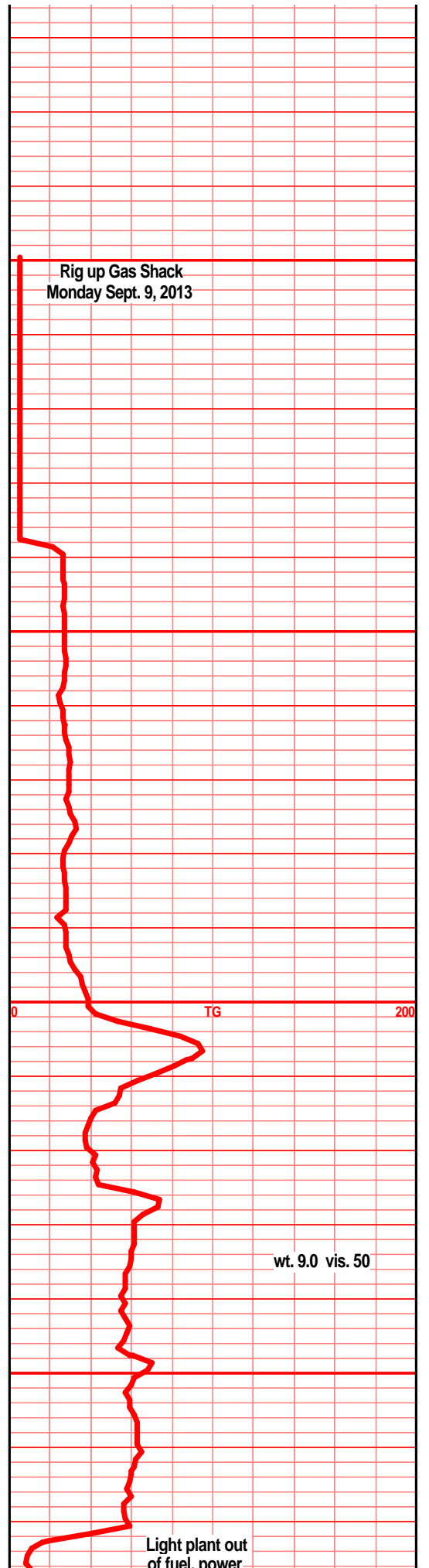
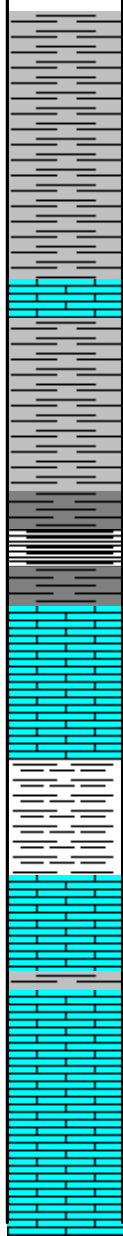
0	ROP (min/ft)	10
0	Gamma (API)	150

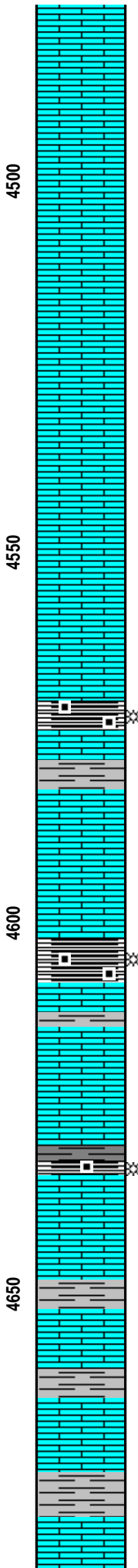
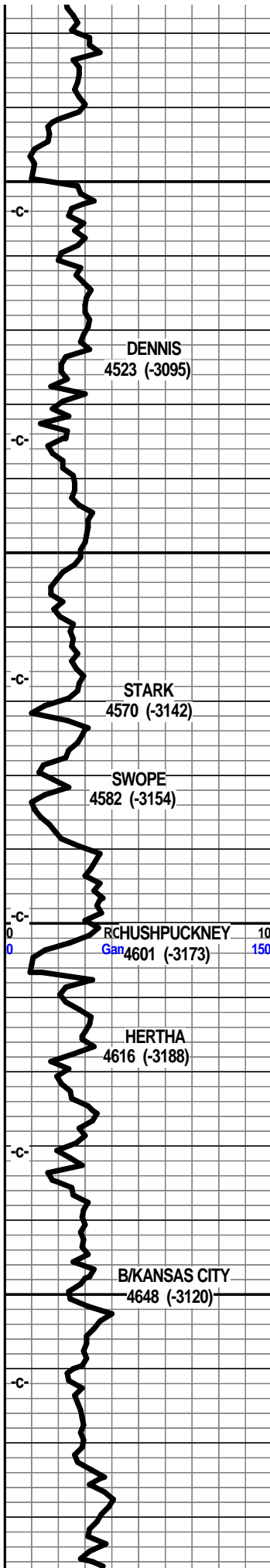
0	TG	200
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4300  
 4350  
 4400  
 4450

- Oil and Gas Show Legend
- ⊗ Gas Show
  - Even Saturation
  - ◐ Spotted Uneven Saturation
  - Questionable
  - ◻ Dead/Gilsonitic





abun blk wxy grsy carb shl, tr gassy, lst tan crm off wht f xln blk ang pcs, sub chlky foss frags, calc xln fill

lst crm lt gry tan f xln gran sub chlky foss frags, foss ool, pelletal, calc xln fill,

shl gry blk, blk wxy grsy carb pcs, gassy in prt,

lst off wht lt gry tan f xln blk ang tr gran pcs, sub chlky, foss frags, micro foss in prt, calc xln fill

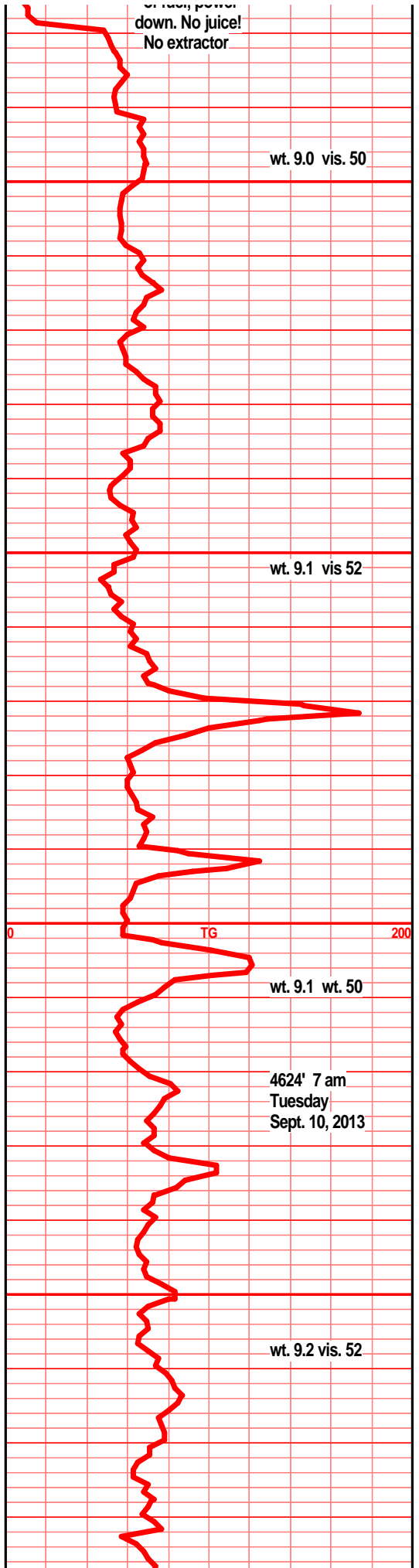
lst crm lt gry tan f xln blk ang pcs, sub chlky foss frag, micro foss frags, calc xln fill, mstly soft

lst crm gry tan f xln dns blk ang pcs, sub chlky foss frags, tr arg, micro foss in prt, calc xln fill, shl gry drk gry blk, sli carb in prt within spl

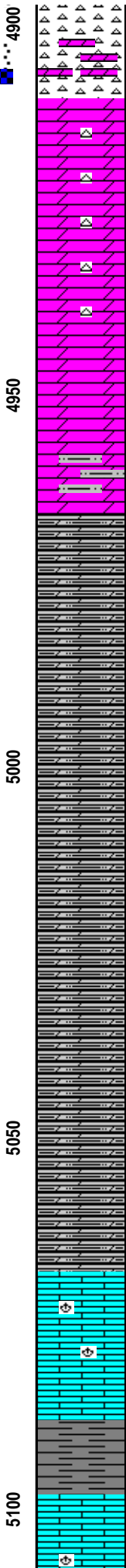
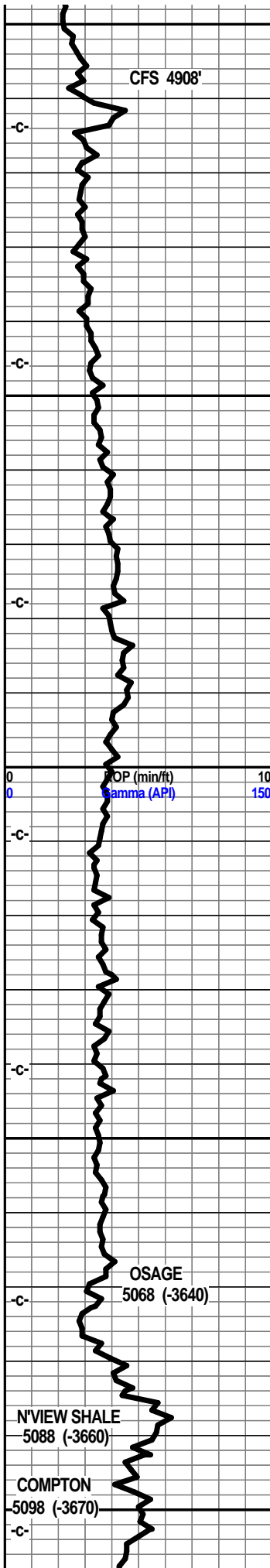
lst gry tan brn f vf xln dns hrd arg, silts. sub chlky gran, shls gry tan gry brn calc soft

shl gry lt gry green blue, calc blk ang pcs, lst tan blue gry f vf xln dns hrd blk, silts, arg, sub chlky

shls gry/lt green, blue, silty gritty, calc in prt, lst tan off wht lt gry/blue, f vf xln dns hrd blk arg, siltv. arittv aran







dns hrd blkly, tan lt brn stain, glau, inter xln por, tite sli odor

dolo chrty dolo, lt gry gry green, f vf xln dns blkly hrd, tr gritty, some sub chlky soft, tr inter xln por, tan brn stain, chrt inclu, off wht lt gry shrp frsh tr weath edge pp sli moldic por, tan brn stain, sli odor in all, tr blkly ang druzey qrtz

dolo chrty dolo, tan gry, gry/green f vf xln gran blkly ang dns, tan off wht chrt inclu, tr inter xln por mstly tite dns, tan brn stain, tr gas bubs, sli odor

dolo tan gry f vf xln dns hrd blkly ang pcs, gritty tr sndy text, chrt off wht tan shrp frsh blkly ang shrp, tr lt stain, tr gas bub on brk, sli odor?

dolo drk tan gry, bec drkr gry, f vf xln gran gritty incr silty, tr chrt off wht tan shrp frsh blkly ang

dolo drk gry f vf xln, silty, gritty, dns gran, gry drk gry dolo silts, tr chrt dull gry tan shrp frsh opa

dolo, silty dolstn, med drk gry, f vf xln, gran dns hrd blkly ang arg, silty gritty, shls drk gry blk, silty gritty dolo

dolo silty dolostn, med drk gry f vf xln, gran gritty silty, hrd blkly ang pcs, shls med drk gry silty gritty

dolo silty dolostn, med drk gry f vf xln gran gritty silty, arg, hrd dns, shls drk gry silty platy silty

dolo, silty gritty shl dolostn, med drk vf xln, dns hrd blkly silty, shls med drk gry silty gritty

dolo, silty dolo, f vf xln dns hrd blkly, med drk gry, silty gritty, hrd blkly ang, shls dolo, silty, gritty

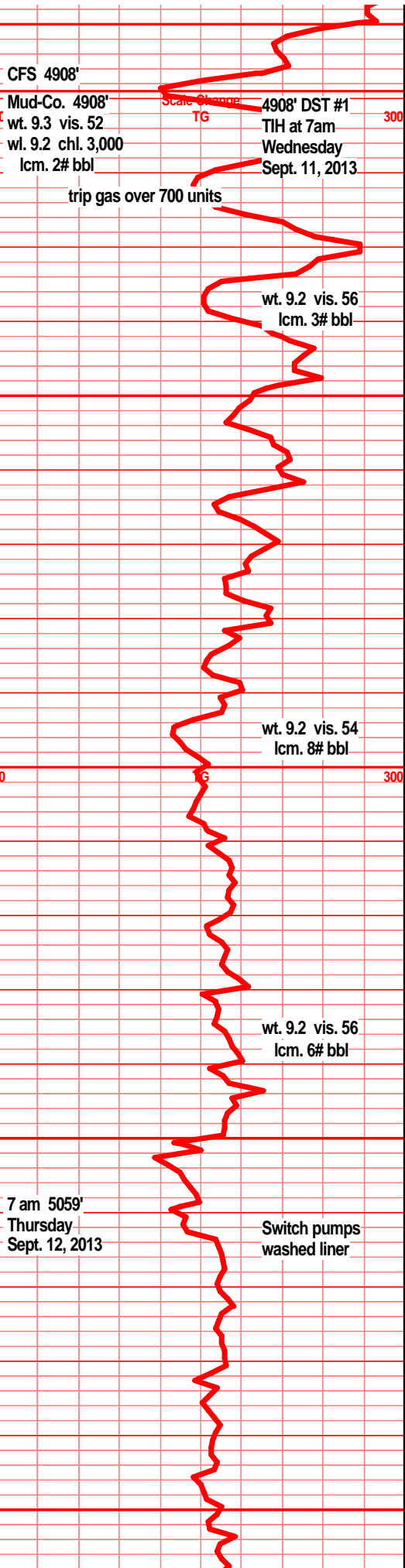
dolo silty dolostn, drk med drk gry, silty blkly ang pcs, gritty, arg, shls drk med drk gry silty gritty

lst wht off wht f sli med xln blkly ang tr sub chlky, foss frags, crs foss frags in prt, mstly dns tite hrd.

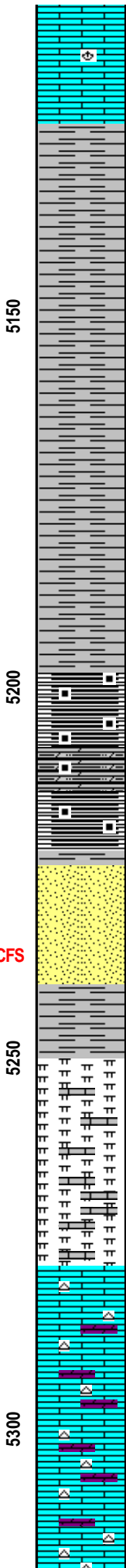
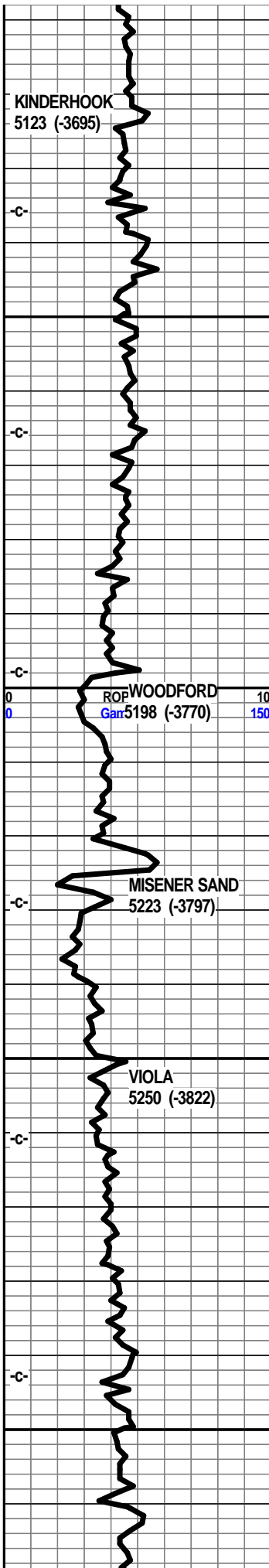
lst off wht lt gry, f sli med xln, blkly ang sub chlky in prt, foss frags, crsly foss frags in prt, tr glau, calc xln fill

lst aa, shl gry drk gry, mstly gry/green to blue green, tr wxy grsy text, silty

lst lt gry tan, f vf xln some micro xln, blkly ang dns hrd pcs, tr sub chlky, tr micro foss frags,







lst lt gry tan, off wht f vf xln dns hrd blk ang dns pcs, some sub chlky, micro foss frags,

shl lt gry, silty, gritty in prt, platy bedded,

shl gry lt med gry, gritty silty, soft, tr bedded, tr banded

shl gry, med gry, silty, gritty in prt bedded, tr pyritic

shl gry med drk gry, blk ang pcs, silty, tr gritty, beds some pyrite bands

shl grk gry med drk gry blk ang pcs, silty gritty blk pcs, pyritic bands

shl gry med drk gry, silty, gritty, bedded, pyritic bands, some blk ang pcs,

shl drk gry mstly blk, brown, deep brownish blk, tr blk carb, silty gritty, blk ang soft pcs, pyritic, dull min copper grains, abun gas bubs, filmy sho cond nodor

shl drk gry blk, deep red/brn/blk, blk ang pcs, gritty, silty, pyritic in prt, soft gran in prt, abun gas bubs, filmy sho

sst wht clr semi frosty clstrs, f sli med grnd, sub ang to ang grns, prly to w/srtd, sub fria to fria, prly cem, tr clay clasts, tr arg, mineral fill, tr vw/cem, hrd blk clstrs, mstly tite tr pyritic fill NS

dolo, dolo shls, gry tan brn vf xln, soft chlky, mushy, soft tan gry clays, lst wht off wht f xln flky chlky

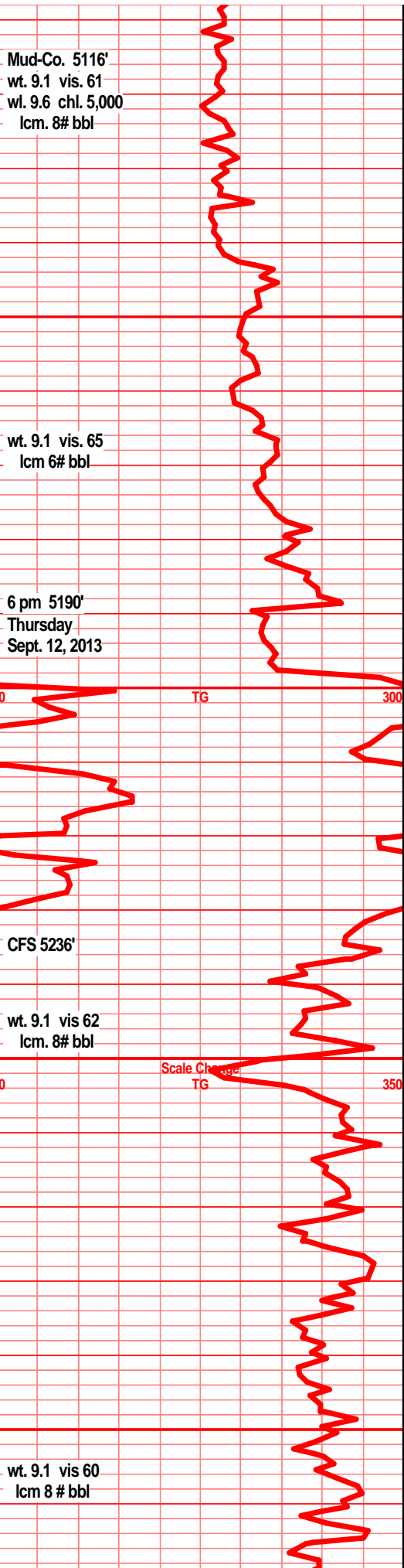
lst wht f xln soft, mushy, wht tan clays, soft crumbly, dolo gry tan f xln soft gran crumbly, mushy arg gran spls wsh wht

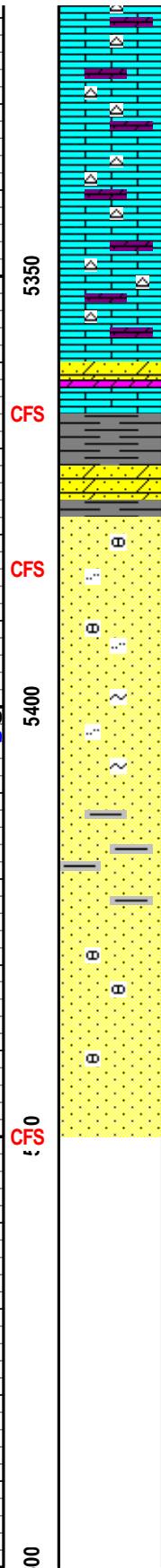
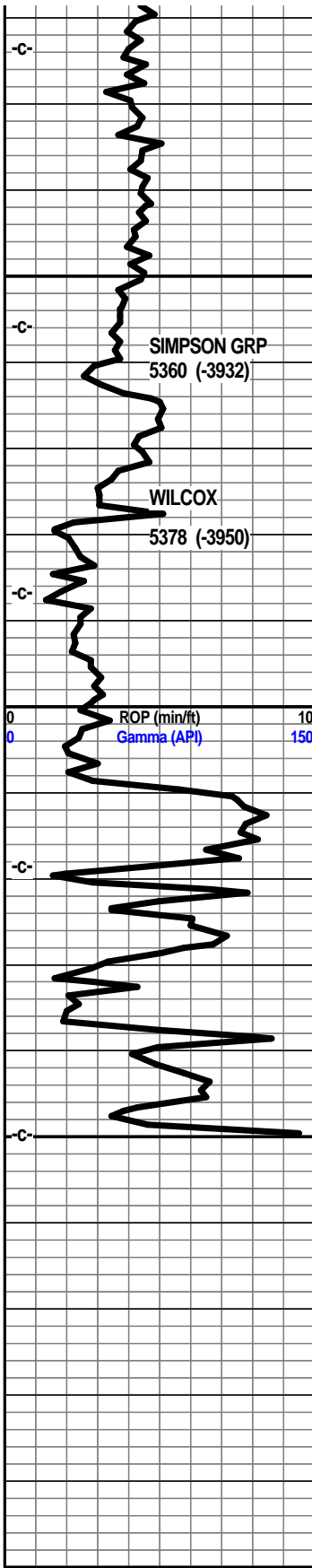
lst, dolo shly dolo in prt, f xln gran soft crumbly mushy, arg, fria, spls wash wht

lst off wht lt gry mott, f sli med xln, blk ang, crs calc xln fill/edges, pyritic, tr inter xln por, dolo drk crm tan f xln, sub chlky gran, gritty, chrt, chrt dull tan shrp blk ang pcs, tr foss pcs

lst off wht lt gry, off wht gry mott, f sli med xln blk ang dns hrd, pyritic edge fill, inter xln por, crs xln edge, dolo tan lt gry tan f vf xln blk ang gran dns hrd, chrt in prt, chrt dull tan gry shrp frsh opa, blk shrp ang pcs

lst crm wt tan f sli med xln blk ang dns, tr crs calc xln fill, dolo lt tan crm lt brn f vf xln gran sli





calc xln m, dolo lt tan crm lt brn f v xln gran sli  
sucr text, blkly dns pcs, chrty, chrt tan dull gry  
shrp frsh oopaq

lst/dolo tan drk crm dull tan, f vf xln gran blkly  
ang gran sli surc text pcs, inter xln por sub  
chlky, tr soft, chrty in prt, chrt dull tan gry shrp  
frsh opa

lst/dolo crm tan dull tan brn f vf xln dns hrd blkly  
ang, sli sub chlky, gran sli surc text, chrty, chrt  
dull tan gry lt brn shrp frsh opa, blkly shrp ang  
tr foss pcs

dolo sndy dolo, drk tan brn, f sli med grnd/xln,  
gran sli surc text, sndy gritty, mstly soft mushy,  
sli chlky, drk brn stain, filmy show and odor on  
brk  
shl gry, drk gry green, drk teal green, slick, wxy  
grsy text, pyritic, snd inclu, sst gry, green f grnd,  
w/cem, pyritic, dolo text, hrd dns blkly clstrs

sst wht clr clstrs, f grnd sub rded to rded grns,  
w/srtd, sub fria to prly cem, inter gran por, tr  
mineral fill, NS

sst wht tan lt gry tr clr clstrs, f grnd, sub ang,  
mstly sub rded grns, fairly srtd, fair to prly cem,  
sub fria, silic cem, tr mineral fill, tr clay clasts, tr  
loose snd grns in spl tray

shl gry dkr gry green teal green, sst wht tan lt  
brn & clr clstrs, f grnd, sub ang mstly sub rded  
grns, w/srtd, fair and poorly cem, silic cem, sub  
fria in most, mineral fill, clay clasts, tr pyritic fill,

sst clr lt gry, some off wht clstrs, f grnd, sub  
ang, sub rded grns, fair to w/srtd, prly cem, sub  
fria, silic cem, mineral fill, tr pyritic, , sst gry  
clstrs, f grnd, rded grns, vry well cem tite dns  
blkly ang clstrs, pyritic, mineral fill

shl green, teal green, snd grn inclu, pyritic  
bands, sst wht off wth lt gry and clr clstrs, f grnd  
sub ang, mstly rded grns, fairly srtd, sub fria to  
w/cem, tr mineral fill, tr blk clay clasts NS

